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(Revision of IEEE Std 308-1971)
ANSI N41.12-1975

IEEE Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations

308-1974

Sponsor
**Nuclear Power Engineering Committee
of the
IEEE Power Engineering Society**

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American National Standards Institute

Superseded by IEEE Std 308-1978

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Foreword

(This foreword is not part of IEEE Std 308-1974, Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations.)

This standard presents criteria and requirements for the electric systems of nuclear generating stations specifically related to providing protection to the health and safety of the public. These are based on the following:

- (1) Redundant systems that require electric power are provided to cope with design basis events.
- (2) The conditions and the availability of the various portions of the systems following a design basis event cannot be predicted exactly.
- (3) The access to certain equipment following a design basis event may be limited for several months.

The Institute of Electrical and Electronics Engineers has developed these criteria to provide guidance in the determination of the design features, minimum conditions of operation, and the surveillance requirements related to the electric power systems of the nuclear facility. Each applicant for a construction permit or an operating license for a nuclear facility in the United States is required to develop these items to comply with the Atomic Energy Commission's code of Federal Regulations, Part 50.

Adherence to these criteria may not suffice for assuring the public health and safety because it is the integrated performance of the structures, the fluid systems, the instrumentation, and the electric systems of the station that establishes the consequences of accidents. Failure to meet these requirements may be an indication of system inadequacy. Each applicant has the responsibility to assure himself and others that this integrated performance is adequate.

The IEEE will maintain this standard current with the state of the technology. Comments are invited on this Standard as well as suggestions for additional material that should be included. These should be addressed to:

Secretary
IEEE Standards Committee
The Institute of Electrical and Electronics Engineers, Inc
345 East 47th Street
New York, NY 10017

IEEE Std 308-1970 was approved in September 1969 and published August 1970. It was the work of Subcommittee 4, Auxiliary Power Systems, of JCNPS (Joint Committee on Nuclear Power Standards) of the IEEE Nuclear Science Group and the IEEE Power Engineering Society. As the result of experience with IEEE 308-1970 and comments received, a number of minor revisions were made to the original standard and IEEE Std 308-1971 was approved in September 1971. This revision also added the section on multi-unit station considerations. Subsequently, a second revision was initiated to improve definitions and bring the standard up to date with the latest consensus of the industry. The revised document was prepared by Working Group 4.1 of Subcommittee 4 of JCNPS.

The Subcommittee recognizes that certain areas of this standard need more extensive treatment. These include the section entitled Multi-Unit Station Considerations (Section 8); the topic of independence between redundant standby sources; criteria pertaining to the connection of non-Class IE equipment to Class IE systems (Section 4.9) and the definition of design basis events (Section 3). These topics are under active consideration in the Subcommittee, and will be the subject of a subsequent revision.

Working Group 4.1 had the following membership at the time it prepared this standard:

K. J. Brockwell, *Chairman*

R. G. Benham
T. J. Martin

M. I. Olken
J. F. Osborn

Effective January 1, 1973 the JCNPS became the Nuclear Power Engineering Committee of the Power Engineering Society. At the time this revision was approved by NPEC at its meeting in Washington, DC on May 17 and 18, 1973, the Committee had the following membership:

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